Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A method for reconstructing a radiographic image of a large sized object by bits, the bits being crossed by a diverging radiation produced by a source, the radiation undergoing an attenuation, the attenuation being measured by a mono-dimensional or two-dimensional network of detectors on which the radiation projects, each measurement giving a projection vignette, the source as well as the network of detectors being displaced along the object at each measurement so that projection vignettes overlap, the method comprising a combination of the overlapping vignettes for reconstructing the image, as well as the following steps :

   discretising the object into voxels defining reconstruction heights;

   associating the voxels with at least one detector respective of the network on which the radiation projects after having crossed the voxel;

   allocating an attenuation value to each voxel according to the values measured by the associated detector; and

   combining the attenuation values of the voxels along parallel columns at the different reconstruction heights to obtain a two dimensional image.

2. (Previously Presented) The method of claim 1, wherein the attenuation value attributed to each voxel is equal to the sum of the values measured by the associated detector, divided by the number of vignettes that contribute to giving the associated detector, and the attenuation

values of the voxels are combined by a digital combination on the groups of voxels superimposed at the different reconstruction heights.

3. (Previously Presented) The method of claim 1, wherein the attenuation value attributed to each voxel is obtained by iterative projection of attenuation values measured by the detectors, provisional values being allocated to the voxels and corrected after having been projected on the detectors, in calculating the differences between the sums of provisional values on the projection lines and the values measured by the detectors on the projection lines, and by projecting the differences on the projection lines to correct the provisional values.

4. (Cancelled)

5. (Previously Presented) The method of claim 1, wherein the method is applied to osteodensitometry.

6. (Previously Presented) The method of claim 3, wherein the attenuation values of the voxels are digitally combined on the groups of voxels superimposed at the different reconstruction heights.